What are the legal aspects of fluoridation and what do they mean for public health workers whose purpose is to protect the public health? In this article the constitutionality of fluoridation legislation, the scope and role of referenda, and the possibilities of state-wide legislation are reviewed, and the implications for public health are discussed.

WATER FLUORIDATION: PUBLIC HEALTH RESPONSIBILITY AND THE DEMOCRATIC PROCESS

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> The law is in some sense the master and in some sense the servant of the health professions. . . . If it is the master in defining what may legally be done and how, it should be the servant in its readiness to adapt, at the behest of other disciplines, to the changing needs of the times. If it is the servant in enforcing those rules of conduct which the health professions have found necessary to the protection of the public, it is the master in setting bounds beyond which the rules may not impinge on the rights of individuals.
>
> —ALANSON W. WILLCOX[1]

OF no issue is the above quotation more true than of water fluoridation. The law is the master of water supplies, defining the bounds of their treatment, and at the same time it is the servant of a scientific development that can effect enormous improvement in dental health. This paper is concerned with the legal aspects of water fluoridation and particularly with their significance for health personnel charged with the responsibility of protecting the public health.

Background

Although the effectiveness of water fluoridation as a preventive of dental caries has been demonstrated for more than a decade, in 1964 only 2,612 communities out of some 17,000 in the United States were fluoridating their water supplies. Including the seven million people in communities with naturally fluoridated water, 54 million people, or 28 per cent of the national population, now have fluoridated water.[2] "At the present rate of instituting fluoridation," it has been estimated, "the goal of 100 per cent fluoridation will not be reached for over a century."[3] Nevertheless, the continuing high level of dental decay, the high cost of dental care, and the persistent shortage of dentists make prevention of dental caries imperative. Dental caries, if not a deadly disease, is almost universal. It is a disease that affects nearly everyone; it may be disabling and is usually progressive and cumulative; ultimately it causes loss of teeth; it stands in the way of positive health and a sense of well-being; and it imposes a heavy economic burden on families.

Studies in various communities have shown that dental caries is marked in primary teeth of children, that it rises steadily throughout childhood, and that

it affects all but a small proportion of adults.[4] It has been estimated that the 180 million people in the United States in 1960 had at least 700 million unfilled cavities or an average of 4.5 per person.[5] Only one-third of the population sees a dentist annually, and 18 per cent never see a dentist.[6] New York City has areas in which more than half of the children suffer from total dental neglect and additional numbers from partial neglect.[7] The picture worsens each year. In the five years from 1958 to 1963, the completely neglected group in New York City increased by 19 per cent.

Even if everyone were sufficiently motivated to seek dental care and could afford its cost, there are not enough dentists to provide the needed care. Dental decay occurs more rapidly than the available dentists can repair it. The severe shortage of dental manpower in the United States is revealed by the following figures: In mid-1963, there were approximately 105,550 dentists, only 83,750 of whom were professionally active.[8] The ratio of dentists to population has declined steadily from 57.2 per 100,000 population in 1950 to 55.7 per 100,000 in 1963.[9] The supply of dentists for the civilian population has declined even more sharply, from 50 active nonfederal dentists in 1950 per 100,000 civilians to 45 in 1963.[10] For many individuals needing care in the United States, the supply of dentists is even poorer because of the wide variation in ratios of dentists to population among the states. The supply ranges from 79 and 77 dentists per 100,000 population in New York and Oregon, respectively, to 28 and 23 per 100,000 population in Mississippi and South Carolina, respectively.[11] The considerable expansion projected in the number and capacity of dental schools will not even keep us abreast of the present supply of dentists.

Dental hygienists, dental assistants, and dental laboratory technicians augment the productivity of dentists, but they, too, are in short supply. There are approximately 15,000 dental hygienists (but only 8,000 full-time equivalents because of the prevalence of part-time work) and 110,000 dental assistants and dental laboratory technicians combined.[12] In May, 1962, the average dentist had less than one dental assistant, and 25 per cent of dentists had none.[13] Moreover, dental hygienists are barred by law in many states from going below the exposed surfaces of the teeth in doing prophylaxes and in all states from filling cavities.[14] Although efforts are being made to increase the numbers of dental auxiliary personnel and to educate dental students in their effective use, no strong movement exists in this country, as in Great Britain and Canada, to develop and train "dental nurses" with ability and authority to fill teeth under the supervision of dentists, along the lines of the New Zealand pattern.

Because of the dental manpower shortage, money cannot solve the problem of providing care for the vast unmet needs in dental health. The commissioner of health of New York City, in testimony before the Board of Estimate, stated that even if the $30 million necessary to provide dental care to the 402,000 children in the city with total dental neglect and the additional 128,000 children with partial dental neglect were appropriated, it could not be spent. "There is not sufficient dental manpower to be recruited in the City of New York to meet this problem," Dr. George James said.[15]

The staggering problem of dental decay thus defies solution, with current resources, through dental care. Even if the supply of dental manpower is vastly increased, the only realistic solution is prevention. Fortunately, a scientific breakthrough has created the possibility of a significant reduction in dental caries. Numerous studies have shown that naturally fluoridated water, or the

addition of sodium fluoride to the water supply in the concentration of one part per million parts of water, reduces cavities by 60 per cent in children who have drunk such water from birth.[16] Even if water fluoridation is not begun at birth, a significant decrease in caries occurs. A recent study among elementary school children in the Virgin Islands showed that children who began drinking fluoridated water at age five had 22 per cent fewer decayed permanent teeth than children in the same area whose water was not fluoridated.[17] Moreover, "the decay resistance developed during the formative period of the teeth lasts for life."[18] In Antigo, Wisconsin, the state board of health found that four years after water fluoridation had been abandoned the number of decayed teeth had risen an average of 92 per cent in kindergarten children, 183 per cent in second-graders, and 41 per cent in fourth-graders.[19]

Exhaustive investigations have found fluoridation in the concentration of one part per million to be not only effective, but safe. No ill effects have been proved, and no scientific evidence contravenes the finding that there is a large factor of safety in water fluoridation in the amount of one part per million.[20] At this concentration, there is a twofold margin of safety against mottled enamel, which is objectionable only on esthetic grounds, not on grounds of health.[21] In 1963, the Department of Health of the City of New York investigated every claim on which opposition to fluoridation has been based and found all statements and information, without exception, "completely unsupported by scientific data."[22]

No effective alternative to water fluoridation has been found. Despite years of health education on the need to brush teeth after eating and to cut down on sweets, dental decay continues high. Ingestion of fluoride by tablet is not feasible for large segments of the population because of inertia and negligence. In Hawaii, a community of 4,000 children was started on fluoride tablets, but four years later only one child in eight was still taking the tablets.[23] Even among children of highly educated parents, sensitive to health needs, the record is only slightly better. In a study of the effect of fluoride tablets on 121 children in such a group, only about half the parents continued to give their children the tablets for the necessary number of years.[24] The addition of fluoride to vitamin preparations is of limited value, since most children do not continue to take vitamin supplements beyond the preschool years. The addition of fluoride to milk involves many problems in the use of milk; formidable technical difficulties are presented by dairies and pasteurization plants in many states supplying milk to a single community. Fluoridation of the public water supply is today the only sound public health approach to the problem of dental caries.

Fluoridation Legislation Constitutional

The legality of fluoridation legislation is as clearly established as its benefits to health. The highest courts of thirteen states have upheld the constitutionality of fluoridation ordinances, and the United States Supreme Court has dismissed appeals or refused review in six of these cases.[25] A recent decision of the Supreme Court, New York County (not the Court of Appeals, the highest court in New York State) is in accord.[26] Only two states have voiced reservations about the validity of fluoridation ordinances, and their decisions were designed to permit the issue to go to trial.[27]

The basis for this unanimity of judicial opinion has been so fully discussed elsewhere[28] that the reasoning of the courts is reviewed only briefly here. The point of departure for the fluoridation cases has been the authority of Jacob-

son v. Massachusetts, the compulsory vaccination case in 1905 which upheld exercise of the police power to control contagious diseases.[29] The courts in the fluoridation cases have extended this doctrine to recognize the police power as the basis for measures to protect and promote the public health, even though no contagion is involved.[30] The New York Supreme Court rested its holding that such legislation to control a noncontagious disease is a valid exercise of the police power on the special responsibility of the state toward children. Declining to comment on whether legislation to compel prevention of noncontagious diseases in adults would be proper, the court said:

> However, the health of our children is a legitimate area of public and governmental concern, whether under the police power of the State, or in the exercise of the State's power to protect the general welfare. It is not shocking to realize that the State, acting in the interests of children, too young to be sui juris, may intervene in the parental area.[31]

The Supreme Court of Louisiana, eleven years earlier, had expressed a broader concept of the responsibility toward the health of children, a concept attuned to contemporary efforts to control chronic diseases, now that communicable diseases have been largely conquered. The Louisiana court said:

> Children of today are adult citizens of tomorrow, upon whose shoulders will fall the responsibilities and duties of maintaining our government and society. Any legislation, therefore, which will better equip them by retarding or reducing the prevalence of disease, is of great importance and beneficial to all citizens.[32]

The courts have similarly rejected the contention that fluoridation ordinances are unconstitutional as class legislation designed to benefit only a segment of the population. "Of course, it is apparent that children become adults," the Missouri court said tersely.[33]

From the strictly legal point of view, the most serious argument of the opponents of fluoridation has been that such ordinances are a deprivation of religious liberty guaranteed against invasion by the federal government under the First Amendment and included within the liberties protected against state action under the Fourteenth Amendment. This issue was deemed moot in the recent Illinois case because the plaintiff alleging interference with his religious beliefs had withdrawn, and it was not an issue in the New York case, since it was not raised by the pleadings but discussed only in an affidavit of a nonparty.[34] In other fluoridation cases the courts have dealt in three ways with the contention that the addition of fluorides to the water supply is compulsory medication and therefore in contravention of the religious tenets of Christian Scientists: (1) by ruling fluorides not a medication, but rather a nutrient found naturally in some areas but deficient in others[35]; (2) by recognizing that no one is forced to drink fluoridated water, but may instead buy bottled water[36] (as persons taxed for public schools may still choose to send their children to private schools); and, most importantly, (3) by distinguishing between the freedom to believe, which is absolute, and the freedom to practice religious beliefs, which may be limited by the public interest.[37]

The obligation of state government, and of local government by delegation from the state, to protect the public health is limited only by the requirements that the legislation benefit the community and be reasonably related to the object to be accomplished.[38] Although fluoridation of a public water supply may curtail the freedom of a minority of individuals, the courts have taken the view that no abuse of due process is involved because

> Liberty implies the absence of arbitrary restraint, not immunity from reasonable regulations. . . .[39]

The Illinois Supreme Court found the reasonableness of fluoridation legislation amply demonstrated by its findings from the evidence presented that "no community, level of society or age group is immune"[40] from the affliction of dental caries, that the authorities are in "extraordinary accord" that fluorides reduce tooth decay, and that the amount of fluorides added to the water would have to be vastly increased for any harmful effects.[41] The New York Supreme Court stated that "Until the scientific evidence as to the deleterious effects of fluoridation reaches beyond the purely speculative state now existing, decisional law mandates the holding that the controversy should remain within the realm of the legislative and executive branches of government."[42] On the impossibility of achieving unanimity of support, the Circuit Court for Wayne County, Michigan, in upholding a fluoridation ordinance passed in the city of Detroit, had this to say:

> In a democratic society, universality of opinion is seldom achieved. Governors and even presidents serve the whole of the people although almost half of the voters have registered a vote for the opposite candidate. Scarcely any public policy, however fundamental, or any measure of public health, receives complete acceptance or overwhelming support. But popular government would be frustrated and ineffective in the protection of the rights and liberties of the people if under our constitutional system, a legislative body on judicial review was told that it could not enact a measure unless it be one of absolute certainty in the accomplishment of the desirable public object. Such a result would be intolerable. It would fly in the face of our fundamental constitutional plan of separation of powers.[43]

In summary, after thousands of pages of testimony in public hearings and a dozen court cases, the Illinois Supreme Court said in 1965:

> These constitutional claims have both their source and their unanimous rejection in the decisions of our sister States. . . . Suffice it to say that those well-reasoned precedents, with which we are in accord: (1) sustain the right of municipalities to adopt reasonable measures to improve or protect the public health, even though communicable or epidemic diseases are not involved; (2) hold that the benefits of fluoridation which carry over into adulthood absolve such programs of the charge of being class legislation; and (3) conclude that fluoridation programs, even if considered to be medication in the true sense of the word, are so necessarily and reasonably related to the common good that the rights of the individual must give way.[44]

Scope of Referendum

Once fluoridation ordinances are enacted, the judiciary uniformly finds them a constitutional exercise of legislative power. The rub is in getting the legislation enacted if the issue is submitted to a public referendum. Votes on fluoridation have gone both ways. Of the 874 public referenda held on fluoridation, 350 were in favor and 524 against fluoridation—40 per cent of public referenda for and 60 per cent against fluoridation.[45] At best, even in the 40 per cent of favorable referenda, fluoridation contests are time-consuming, acrimonious, and costly.

Three cases have dealt with the question of referendum in relation to fluoridation. Two of these decisions are mentioned here and the third is discussed later. In Missouri, a fluoridation ordinance was upheld as a reasonable exercise of the police power to protect the public health and welfare granted to the county by the state constitution and the county charter, even though the charter provided for a referendum and no referendum was held.[46] Although one notewriter heralded this case as excellent authority for local governments to institute fluoridation even if the charter requires a referendum,[47] it is doubtful whether the court's opinion is sufficiently explicit to lay at rest the question of referendum for all time.

More recently, in North Carolina, a county-wide fluoridation vote defeated fluoridation. Since the vote was con-

cededly a nonbinding advisory referendum only, the city council thereafter adopted a resolution to fluoridate the water supply. In an action by officers of the Pure Water Association to restrain the fluoridation, the court held that although the public referendum was advisory only, the city council should be prevented from instituting fluoridation until another vote could be held, such vote not to be county-wide, but limited to city voters who would be affected by the measure.[48]

In view of the frequency of public referenda on fluoridation, knowledge of the historical background and scope of public referenda may be helpful to public health officials faced with the task of introducing this preventive measure in their communities. The initiative and referendum were developed from earliest times in this country as a means of keeping some direct legislative control in the hands of the people.[49] The initiative empowers the people to propose new legislation; the referendum empowers the people to approve or reject legislation enacted by their representatives. Provisions for initiative and referendum are written into almost all state constitutions, and state and local laws define the scope of referenda and the power of the electorate. Both measures developed as a result of the distrust of the people of their legislative bodies and particularly in the early 1900's as a result of popular dissatisfaction with the power wielded by large corporations in state legislatures.[50] Historical practice in each state has determined the frequency with which these measures are used. The extensive use of the initiative in California, which continues to the present day, is vividly described by a political scientist:

> The introduction of the initiative into California politics was an offspring of the Progressive movement led by Hiram W. Johnson. A response to corruption in government, vividly depicted by the journalistic "muckrakers," the Progressive movement sought to oust the so-called "Southern Pacific machine" from control of state politics. Direct legislation—the initiative, referendum and recall—was an important part of the Progressives' program. For several decades before 1910, California politics had been dominated by the "Southern Pacific machine," and the Progressives' proposals for direct legislation reflected a widespread distrust of the usual legislative process. . . . A few intrepid supporters of the initiative even suggested that legislatures might be abolished altogether, after the adoption of the initiative.[51]

Since the initiative and referendum constitute a basic right of the people to exercise direct control over legislation, the courts understandably construe the right liberally. Nevertheless, the right is not unlimited, and certain exemptions from the referendum are well-established. For example, excluded from referendum are emergency legislation for the immediate preservation of the public peace, health, or safety and laws for the support of government and its institutions.[52]

Another exemption from the referendum is pertinent to fluoridation ordinances. Administrative or executive acts are everywhere deemed to be outside the sphere of referendum; only legislation is subject to referendum. The crucial test of a legislative act, as distinguished from an administrative act, is whether the ordinance is designed, on the one hand, to enact a new law or, on the other, to execute a previously enacted law or policy.[53] Thus, decisions of local government to effect a flood control project,[54] to locate a building for the courts,[55] to grant a franchise for a bus system,[56] to make orders for plumbing, wiring and heating in a school house,[57] to acquire land for a city hall[58] have been held administrative or executive in pursuance of existing policy and legislation and therefore not subject to referendum. Courts have, however, held matters seemingly administrative (e.g., change from a 15- to 20-year plan for maturity of bonds) to be legislative and

therefore within the sphere of a referendum.[59]

The split of authority among the courts as to whether an action of a municipal body is legislative or administrative, and therefore within or without the scope of referendum, is revealed by a line of cases dealing with public housing. In 1941, a California court held a resolution of a city council authorizing the city to enter into an agreement with the public housing authority to waive taxes and to supply certain municipal services without charge for a limited period of time to be an administrative act and therefore not subject to referendum.[60] The court's decision was based on the finding that the state legislature, in establishing the housing authority and prescribing its duties, had fully determined the law and policy on public housing and that the cooperative agreement of the municipal corporation with the housing authority pursuant to that law was merely an administrative act. No referendum was therefore required. Montana is in accord.[61]

In a case involving a similar issue in Missouri, however, the St. Louis Court of Appeals held the voters entitled to express their wishes on an agreement for cooperation between the city and the housing authority.[62] The court rested its decision on the difference between the California and the Missouri public housing law in that Missouri does not have a specific housing cooperation law like that in California, but rather a general provision permitting any political subdivision to contract and cooperate with any other for the planning and development of any common facility. On this basis, the ordinance of the St. Louis County Council was held to be legislative in character and subject to referendum. The court specifically pointed out that cases in other states, deeming similar cooperation agreements legislative, are based on the theory that the statutes which authorize them are permissive and in the nature of enabling acts, requiring further local legislation.[63]

In some ways, fluoridation ordinances enacted under the authority of constitutional and statutory provisions to protect and promote the public health would seem to be analogous to cooperation agreements under the public housing law. Both are innovations in program that engender the opposition of a small minority. Both are undertaken under the aegis of state law to promote a social good or benefit for a group for whom the state bears a special responsibility—children, in the case of fluoridation, and the economically disadvantaged, in the case of public housing. It might well be argued that state constitutions and state public health laws authorizing legislative bodies to protect and promote the health of the inhabitants are a full expression of law and public policy, and that fluoridation ordinances are merely administrative or executive acts to carry out existing law.

Actually, a case has arisen which involved the contention that an ordinance of a city council approving a contract for the purchase of fluoridation equipment was an administrative act and not subject to referendum. This is the third case dealing with a referendum on fluoridation, mentioned above. The Supreme Court of Missouri held the ordinance legislative, and therefore referable, under the provisions of the Kansas City charter, which makes "any ordinance passed by the council, except emergency measures . . . subject to referendum of the electors."[64] In its opinion, the court said:

> We readily agree that the ordinance before us has the appearance, upon casual examination, of an administrative one. If, instead of fluoridation equipment, it (the city council) had approved a contract for the purchase of a pump for routine use by the water department, we would unquestionably hold it to be administrative. However, we must not restrict ourselves to a casual examination of the ordinance but must look to its substance and determine the real purpose. . . .[65]

The court's decision may have been influenced by the particular history of efforts to institute fluoridation in Kansas City. An earlier ordinance spelling out the benefits of fluoridation to health, and authorizing the director of the water department to institute fluoridation and to negotiate a contract for the installation of the necessary equipment, had been introduced in the city council. Three hearings were held, but no action was taken by the city council on the proposed ordinance, which was removed from the calendar in a general clearing of the calendar. In deciding that the second ordinance approving the contract for purchase of fluoridation equipment should be submitted to a vote, the court said that the first ordinance, if it had passed, would undoubtedly have been legislative as new policy and therefore the second one was as well.

This decision, of course, is controlling in only one jurisdiction. Other jurisdictions might well decide the question differently, just as there is a split of authority on the public housing cases discussed above.

In any event, the possibility that fluoridation ordinances might be construed to be administrative acts, designed to carry out state and local laws to protect the public health, is not urged to suggest that affirmative legal action should be undertaken to declare a referendum on fluoridation improper if one is sought by the voters. It is rather to indicate to responsible public health officials the propriety of proceeding to institute fluoridation by vote of the elected representatives of the people without a popular vote. Force is lent to a decision to seek fluoridation through local government action by the urgency of the problem of dental disease, a major impairment of the public health. A health officer, confronted with the task of informing his city or county council of the wisdom of fluoridating the water supply, should know that legal grounds exist for action by a local legislative body without submitting the issue to the electorate.

One other possible exemption from the referendum may be pertinent to the matter of fluoridation. In 1925, a Texas court exempted municipal action regulating the rates of a public service corporation from referendum on the ground that the city charter reserved the revision of a rate schedule to the legislative branch of the municipality.[66] The court added, as dictum, that the complexity of the subject-matter might make it nonreferable:

> The matter of changing, fixing, or regulating the charges, fares or rates of a public service company or corporation, and of determining what the compensation for such service should be and its reasonableness, is both legislative and judicial in character, and in its nature one which is at least impracticable, if not impossible, for the public at large, the voters, to pass on. They cannot have or digest the information, data, and facts necessarily incident and essential to the forming of a correct, accurate, and fair judgment upon the subject.[67]

Opinion is divided as to whether the complexity of an issue takes it out of the arena for popular decision. One writer has said that the incompetence of the voters to decide a complex issue is not a valid objection to a referendum, since the very basis of the referendum is that the people are able to make an intelligent choice.[68] This may be the theory of a referendum. In reality, we know that there are many technical and scientific questions that the ordinary person is not qualified to decide.

Analyses of fluoridation votes have shown that the level of education of an electorate influences the outcome of the vote. Interestingly, strong support has been found among persons with some college or more advanced education and among those with less than eighth-grade education; those with some high school education tend to be opposed.[69] Analyses of fluoridation votes thus confirm Alexander Pope's couplet that a

little learning is a dangerous thing. Light is shed on this correlation, perhaps, by a survey analyzing the impact of science reporting on all occupational groups, with varying religious and educational backgrounds, in which 56 per cent of the respondents said that they understood little or none of the things which scientists say.[70] Their responses to hypothetical headlines dealing with the physical sciences were found to be generally positive, but the social and medical sciences did not enjoy the same credibility or confidence.[71] This study interpreted these responses as indicating a fear of tampering with nature—probably a large part of the opposition to fluoridation.

Avoidance of a referendum does not mean that the issue will be relegated to an authoritarian or undemocratic decision. The elected representatives of the people are chosen to make precisely such decisions. They may be better qualified to plumb the depths of complex subjects than the individual voter, and certainly experts can more readily bring all the evidence to a small group whose duty it is to decide such questions than to an entire electorate. Safeguards exist in review by the courts and in the total electoral process. In view of the high stakes in fluoridation, it may well be a distortion of the democratic process to submit such a complex, scientific question to lay judgment. Democracy may be better served by assigning to elected representatives of all the people the task of deciding a question requiring extensive technical and professional knowledge.

If we are facing facts about the referendum, rather than engaging in rhetoric about the fundamental right of popular approval of legislative activity, we must recognize that the referendum is a modification of representative government. It is machinery by which a relatively small number of citizens can force the people to vote on measures against the judgment of elected representatives of all the people.[72]

Moreover, in many situations in recent years, the original notion of the referendum as a device to protect the people against powerful lobbies of special interests has been turned around. With population increases, it take considerable money to gather sufficient signatures to place a measure on the ballot, and commercial firms are often hired to circulate petitions for special interests. In California, Governor Brown in his 1965 message to the California legislature criticized the practice of turning "the ballot into a field for jousting among public relations men wearing the colors of special interests."[73]

Responsibility of Public Health Personnel

It is the responsibility of public health officials and public health agencies to bring to the people the benefits of modern science. Bernhard J. Stern in his brilliant account of resistances to medical changes detailed public opposition to vaccination, to isolation for serious contagious diseases, to the public health movement itself. "Resistance to innovations in medicine," Stern wrote, "may be said to be the rule rather than the exception."[74] In the past, the persistence of scientists and health authorities succeeded in overcoming opposition to medical and public health advances that were controversial in their time—vaccination against smallpox, chlorination of water, and pasteurization of milk. Today, the problem is the conquest of chronic disease rather than contagious disease. Health authorities have the same responsibility for effecting the control of chronic disease with the best available scientific knowledge that they have long had for communicable disease.

For one chronic disease—dental decay—science has found an effective and

safe preventive measure. Nevertheless, nearly three-quarters of the American people do not receive its benefits. The stumbling block has been the small group of opponents who confuse the issue, distort the evidence, and frighten the people.[75] When the issue is submitted to a referendum, it is the duty of public health officials to use the best educational methods to clarify the facts.[76] But, whenever possible, health officials should convince elected representatives to institute fluoridation as a proper implementation of their general legal responsibility and without a popular vote. It is the duty of public health personnel to bring home to elected officials the facts on water fluoridation so clearly and dramatically that these officials will not abdicate their responsibility for making a decision. In our representative form of government, elected officials can be advised and informed by dental, medical, and public health authorities. It is far more difficult and costly to educate an entire community on so vast and specialized a subject.

A new possibility for the institution of fluoridation has recently been demonstrated by the enactment of statewide legislation. On May 28, 1965, the Connecticut legislature passed a bill requiring fluoridation of water in communities above a certain population. Water companies serving a population of 50,000 or more must begin fluoridation by January 1, 1967, and companies serving a population of 20,000 to 50,000 must begin no later than October 1, 1967. The percentage of the state's population served by fluoridated water will increase from 28 per cent to 70 per cent under this law. Not that the law was rammed through the legislature. Hearings had been held in communities throughout the state over a two-year period prior to passage of the bill. As the first state to take legislative action on fluoridation for the state as a whole, rather than leaving it to local governing bodies, Connecticut may well prove to have pioneered in a simple, reasonable, and effective approach to the problem.

In the decades ahead, the benefits of fluoridation will undoubtedly become common and accepted knowledge. At that time in the future, referenda will present no problem. If, to draw a parallel, one were to have a referendum on pasteurization of milk today, it would doubtless pass overwhelmingly; 50 years ago it would probably have failed. The critical question, therefore, is one of time. How many cohorts of children born in the coming years will have to be condemned to unnecessary dental disease because of the ignorance of their parents, the timidity of their local and state governments, or the weakness of their public health officials? In the long view of history, public referenda on fluoridation may well be seen as another instance of misguided resistance to medical progress and as a distortion of the democratic process. The hope for improved dental health—sooner rather than later—rests with the public health authorities and with the people's elected representatives.

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24. Arnold, Francis A., Jr.; McClure, F. J.; and White, Carl L. Sodium Fluoride Tablets for Children. Dental Progress 1,1:8 (Oct.), 1960.
25. Rogowski v. City of Detroit, 132 N.W. 2d 16 (Mich. 1965); Schuringa v. City of Chicago, 30 Ill. 2d 504, 198 N.E. 2d 326, cert. den. 379 U. S. 964 (1965); Stroupe v. Eller, 138 S.E. 2d 240 (N. C. 1964); City Commission of Fort Pierce v. State, 143 So. 2d 879 (Dist. Ct. App. Fla. 1962); Wilson v. City of Council Bluffs, 253 Iowa 162, 110 N.W. 2d 569 (1961); Readey v. St. Louis County Water Co., 352 S.W. 2d 622 (Mo. 1961), appeal dismissed 371 U. S. 8 (1962); Kraus v. City of Cleveland, 163 Ohio St. 559, 127 N.E. 2d 609 (1955), appeal dismissed, 351 U. S. 935 (1956); Baer v. City of Bend, 206 Ore. 221, 292 P. 2d 134 (1956); Froncek v. City of Milwaukee, 269 Wis. 276, 69 N.W. 2d 242 (1955); Dowell v. City of Tulsa, 273 P. 2d 859 (Okla. 1954), cert. den. 348 U. S. 912 (1955); Kaul v. City of Chehalis, 45 Wash. 2d 616, 277 P. 2d 352 (1954); Chapman v. City of Shreveport, 225 La. 859, 74 So. 2d 142, appeal dismissed, 348 U. S. 892 (1954); De Aryan v. Butler, 119 Cal App. 2d 674, 260 P. 2d 98 (1953), cert den. 347 U. S. 1012 (1954).
26. Paduano v. City of New York, 257 N. Y. S. 2d 531 (Sup. Ct. Spec. T, N. Y. Co. 1965).
27. Teeter v. Municipal City of La Porte, 236 Ind. 146, 139 N. E. 2d 158 (1956) and McGurren v. City of Fargo, 66 N.W. 2d 207 (N. Dak. 1954). Cf. Miller v. City of Evansville, 189 N.E. 2d 823 (Ind. 1963), in which the court found no authority in the city council to purchase fluoridation equipment in the absence of a valid appropriation.
28. See McKray, George A. Community Health and the Law. Pub. Health Rep. Law and Health. 79,8: 654 (Aug.), 1964; Butler, H. William. Legal Aspects of Fluoridating Water Supplies. J. Am. Dent. A. 65,5:653 (Nov.), 1962; Tobey, James A. Water Fluoridation and Civil Rights. Pub. Works Magazine (Jan.), 1962; Gramm, Classen J., Jr. Constitutional Law-Due Process-Fluoridation of Water Supplies. Notre Dame Lawyer. 38,1:71 (Dec.), 1962; Nichols, Alan H. Freedom of Religion and the Water Supply. So. Calif. L. Rev. 32,1:158 (Fall), 1958; Conway, Bernard J. Legal Aspects of Municipal Fluoridation. J. Am. Waterworks A. 50,10:1330 (Oct.), 1958; Stallsworth, Willam P., Jr. Legal Aspects of the Fluoridation of Public Drinking Water. Geo. Wash. L. Rev. 23,3:343 (Jan.), 1955; Dietz, Henry A. Fluoridation and Domestic Water Supplies in California. Hastings L. J. 4:1 (Fall), 1952.
29. 197 U. S. 11 (1905).
30. E.g., Kaul v. City of Chehalis and Dowell v. City of Tulsa, supra note 25. See Baer v. City of Bend, supra note 25 at 228 for view that Jacobson is actually a more extreme case than the fluoridation cases because it required the individual to take affirmative action to submit to vaccination, whereas in fluoridation of the water supply no such action is required.
31. Paduano v. City of New York, supra note 26 at 541.
32. Chapman v. City of Shreveport, supra note 25 at 870.
33. Readey v. St. Louis County Water Co., supra note 25 at 632.
34. Schuringa v. City of Chicago, supra note 25 at 328; Paduano v. City of New York, supra note 26 at 537-538.
35. See Readey v. St. Louis County Water Co., supra note 25 at 628, 631 for the court's statement that it could not assume that the addition of 0.5 parts per million of fluoride to water that already contained 0.5 parts per million would result in infringement of any constitutional rights.
36. Chapman v. City of Shreveport, supra note 25 at 146.
37. De Aryan v. Butler and Baer v. City of Bend, supra note 25. See discussion in Baer, 206 Ore. at 231, 292 P. 2d at 138 of cases in which a court intervened to provide a blood transfusion or other medical care for a child whose parents refused treatment on ground of religious scruples.
38. Schuringa v. City of Chicago, Readey v. St. Louis County Water Co., and De Aryan v. Butler, supra note 25.
39. Dowell v. City of Tulsa, supra note 25 at 863, quoting Chicago, B. & O. R. Co. v. McGuire, 219 U. S. 549, 567 (1911), as quoted in West Coast Hotel v. Parrish, 300 U. S. 379 (1937). Accord, Baer v. City of Bend and Readey v. St. Louis County Water Co., supra note 25, both citing the leading case of West Coast Hotel v. Parrish, supra at 391: "Liberty under the Constitution is thus necessarily subject to the restraints of due process, and regulation which is reasonable in relation to its subject and is adopted in the interests of the community is due process."
40. Schuringa v. City of Chicago, supra note 25 at 330.
41. Id. at 331.
42. Paduano v. City of New York, supra note 26 at 542.

43. Rogowski v. City of Detroit, Civil No. 629-422 (July 23), 1963, aff'd., 132 N.W. 2d 16 (Mich. 1965), supra note 25.
44. Schuringa v. City of Chicago, supra note 25 at 333-334.
45. Personal communication to the author from the Division of Dental Public Health and Resources of the Public Health Service, Dept. of Health, Education, and Welfare (May 26), 1965.
46. Readey v. St. Louis County Water Co., supra note 25.
47. Gay, Constitutional Law-Fluoridation Without Referendum: A Reasonable Exercise of Police Power Not Deprivation of Liberty Without Due Process. Am. Univ. L. Rev. Vol. 12, p. 97 at 100 (Jan.), 1963.
48. Stroupe v. Eller, supra note 25.
49. Ordinance Altering an Existing Zoning Classification Held to be an Administrative Action and Not Subject to Referendum. Utah. L. Rev. 5,3:413 (Spring), 1957.
50. Note: Limitations on Initiative and Referendum, Stanford L. Rev. 3,3:497 (Apr.), 1951.
51. Casstevens, Thomas W. Reflections on the Initiative Process in California Politics, Pub. Affairs Rep. 6,1:1 (Feb.), 1965.
52. See Limitations on Initiative and Referendum, op. cit. supra note 50.
53. Am. Jur., vol. 37, Municipal Corporations, sec. 210, 1941 and Supp. 1964.
54. State v. Salome, 167 Kan. 766, 208 P. 2d 198 (1949).
55. Simpson v. Hite, 36 Cal. 2d 125, 222 P. 225 (1950).
56. Seaton v. Lackey, 298 Ky. 188, 182 S.W. 2d 336 (1944).
57. Dooling v. City Council of City of Fitchburg, 242 Mass. 599, 136 N.E. 616 (1922).
58. Hopping v. Council of City of Richmond, 170 Cal. 605, 150 P. 977 (1915).
59. Keigley v. Bench, 97 Utah 69, 89 P. 2d 480 (1939).
60. Kleiber v. City and County of San Francisco, 18 Cal. 2d 718, 117 P. 2d 657 (1941). Referendum disallowed on same ground of city council action under Community Redevelopment Law: Andrews v. City of San Bernardino, 175 Cal. App. 2d 459, 346 P. 2d 457 (Dist. Ct. App., 4th Dist. 1959).
61. Great Falls Housing Authority v. City of Great Falls, 110 Mont. 318, 100 P. 2d 915 (1940).
62. Carson v. Oxenhandler, 334 S.W. 2d 394 (St. Louis Ct. App. Mo. 1960).
63. Id. at 405.
64. State of Missouri v. Strahm, 374 S.W. 2d 127, 129 (Mo. 1963).
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67. Id. at 448-449, 271 S.W. at 1107.
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76. Rebuttals of the contentions of opponents of fluoridation are contained in the J. Am. Dent. A. 65:5 (Nov.), 1962, and in an exhaustive publication by Elwell, Kenneth R., and Easlick, Kenneth A., op. cit. supra note 20.

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Congress on Microbiology

The Costa Rican Association of Microbiology together with the College of Microbiologists of Costa Rica and the Faculty of Microbiology of the University of Costa Rica are sponsoring the First Central American Congress of Microbiology to be held in San José, December 15-18, 1965.

F. Montero-Gei, the secretary general of the Congress, extends an invitation to those in the United States interested in this field to present papers at the meeting. Subjects to be covered at the Congress are bacteriology, parisitology, mycology, immunology, hematology, viruses and rickettsiae, clinical chemistry, and the physiology of microorganisms. For further information write: F. Montero-Gei, Secretary General, First Central American Congress on Microbiology, Apartado 2157 San José, Costa Rica, C. A.